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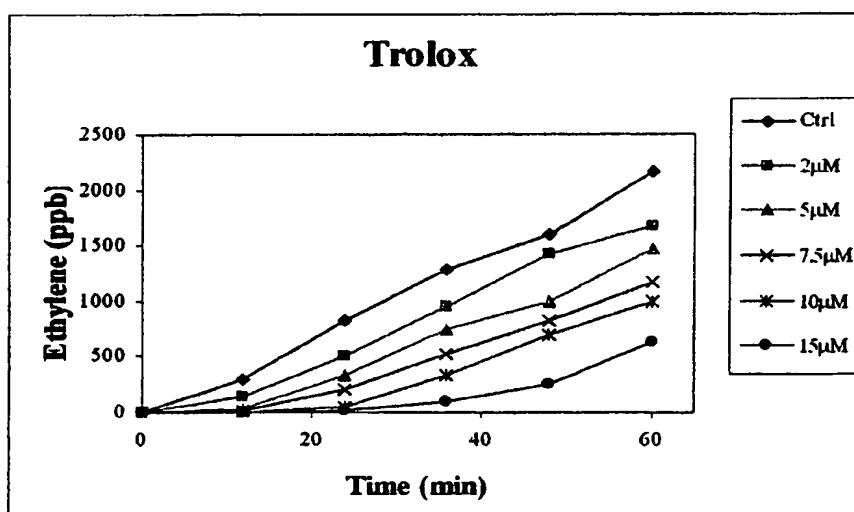
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(54) Title: A METHOD OF ASSAYING THE ANTIOXIDANT ACTIVITY OF PURE COMPOUNDS, EXTRACTS AND BIOLOGICAL FLUIDS



(57) **Abstract:** A direct comparisons of the antioxidant activities of various pure compounds (eg., Trolox®(6-hydroxy-2,5,7,8-tetramethylchroman-2-carboxylic acid), extracts and biological fluids (eg. human plasma) can be effected by means of standardisable, objective method of determining and measuring the antioxidative and oxidative radical scavenging activities of a natural or synthetic substance, including the measurement of an indicator reaction product gas, ethylene, in the reaction headspace using Selective Ion Flow Tube Mass Spectrometry (SIFT-MS). This method assays ethylene liberated from  $\alpha$ -keto- $\gamma$ -methylbutyric acid (KMBA) on reaction with peroxy radicals, other radicals or other reactive oxygen species that can oxidise KMBA to ethylene. From the production rate and concentration of the ethylene, the total antioxidant activity of an added analyte in question and its rate of reaction with oxidative free radicals may be determined.